

WHAT IS CLAIMED IS:

1. A system for controlling a water supply of a household,
comprising:

5 at least one electrically controllable valve for
controlling a plumbing branch of said water supply feeding
multiple water fixtures within said household;
a control circuit coupled to said electrically controllable
valve for operating said electrically controllable valve; and
10 at least one motion sensor coupled to said control circuit
for providing a determination of occupancy of said household,
said motion sensor having a zone of activation extending
substantially beyond a single water-supplying fixture of said
household, whereby said control circuit controls said
15 electrically controllable valve in conformity with said
determination of occupancy of said household.

2. The system of Claim 1, further, comprising a thermal detection
system coupled to said control circuit for shutting off said
20 electrically controllable valve in response to detection of a
potentially freezing condition.

3. The system of Claim 1, further comprising a seismographic detector coupled to said control circuit for shutting off said electrically controllable valve in response to detection of an earthquake condition.

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4. The system of Claim 1, wherein said motion sensor is located at an entrance of said household, whereby occupancy is determined by entry and exit from said household, whereby no motion sensor is required in rooms having water-supplying

10 fixtures.

5. The system of Claim 1, wherein said control circuit further comprises long cycle timer for controlling a maximum on period of said electrically controllable valve when said motion sensor

15 detects that said household is not occupied.

6. The system of Claim 1, wherein said control circuit comprises:

a programmable controller having a memory for storing program instructions and a processor for executing said program instructions; and

program instructions resident within said memory for adjusting said control of said electrically controllable valve in conformity with learned patterns of motion detected by said motion sensor and wherein said program instructions include a learning module for detecting patterns of occupancy of said household.

7. The system of Claim 1, wherein said control circuit further comprises an input for receiving a signal from a sprinkler control system, whereby sprinkler system use of said water supply may be permitted when said motion detectors detect no activity within said household by turning on said electrically controllable valve during a period of activation of said signal.

8. The system of Claim 1, further comprising a manual override timer circuit for providing a period of water flow wherein inputs of said motion detectors are not used to control said electrically controllable valve.

9. The system of Claim 1, further comprising a timer for determining whether or not said motion sensor has detected activity for a predetermined inactivity period.

5 10. The system of Claim 1, wherein said electrically controllable valve comprises multiple electrically controllable valves, each associated with one or more motion sensors coupled to said control circuit, and wherein said multiple electrically controllable valves are inserted in multiple plumbing branches
10 of said household water supply for supplying water to multiple fixtures, whereby zones of occupancy are determined by said motion sensors, and wherein each of said electrically controllable valves associated with occupied ones of said zones are enabled as determined by a detection of occupancy by said
15 associated one or more motion sensors.

11. A system for controlling a water supply of a household,
comprising:

at least one electrically controllable valve for
controlling said water supply;

5 a control circuit coupled to said electrically controllable
valve for operating said electrically controllable valve; and

means for determining occupancy of said household, whereby
said control circuit controls said electrically controllable
valve in conformity with said determination.

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12. A method for controlling a water supply of a household, said
method comprising:

detecting motion within said household;

determining whether or not said household is occupied in

15 conformity with said detection; and

in response to determining that said household is
unoccupied, shutting off said water supply in conformity with
said determination.

20 16. The method of Claim 15, further comprising:

detecting seismic activity; and

wherein said water supply is further controlled in
conformity with said seismic detection.

17. The method of Claim 15, further comprising:

detecting an ambient temperature; and

wherein said water supply is further controlled in conformity with said detected temperature.

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18. The method of Claim 15, further comprising detecting a flow of said water supply, and wherein said controlling further controls said water supply in conformity with said detected flow.

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19. The method of Claim 18, further comprising incrementing an interval timer after a determination of non-occupancy is made for permitting operation of said water supply for a predetermined interval after said determination, whereby

15 appliances are permitted to complete their cycles.

20. The method of Claim 19, further comprising resetting said interval time upon each detection of motion in said household.

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